IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No:	10/624,062
Applicant:	Jeffrey Hutchinson
Filed:	07/21/2003
Title:	METHOD AND APPARATUS FOR PRODUCING A DOUGHNUT
TC/A.U.:	1761
Examiner:	Thuy Tran Lien
Notice of Appeal Filed:	03/30/2003
Docket No.:	RWB40-US1

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief-Patents
Commissioner for Patents
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S I R :

Appellants hereby request consideration and reversal of the Final Rejection dated 10/31/2005, and the Advisory Action dated 03/09/2006, of claims 1-9 and 11-22.

This Brief is presented in the format required by 37 C.F.R. § 41.37, in order to facilitate review by the Board. The fees for filing a Brief in support of an Appeal under 37 C.F.R. § 41.20(b)(2), together with a petition for one month extension and the extension fee required in connection with the filing of this Brief, are provided herewith.

I. REAL PARTY IN INTEREST

The real Party In Interest in this matter is Donuts and Company Limited of London, England by virtue of assignments recorded on 07/21/2003 and 12/22/2003, at Reel/Frame 014296/0634 and 014810/0987 respectively.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences related to the subject matter of this Appeal.

III. STATUS OF CLAIMS

Claims 1-9, 11-12, and 15-20 stand rejected under 35 U.S.C. § 103(a) as obvious over WO 98/30105, hereinafter Lonergan al., in view of United States patent No. 5,130,150 hereinafter Averbach. Claims 1 and 15 are independent claims. The rest depend either directly or indirectly therefrom.

Claims 13, 14, 21 and 22 stand rejected under 35 U.S.C. § 103 as obvious over Lonergan et al. in view of Averbach and further in view of U.S. Pat. No. 5,804,243, hereinafter Loh et al. Claims 13, 14, 21 and 22 are all dependent claims, claims 13 and 14 depending from claim 1 and claims 21 and 22 depending from claim 15.

IV. STATUS OF AMENDMENTS

This application , filed on 07/21/2003, is a continuation in part application of Serial number 09/734,094 now abandoned, and claims priority from UK application serial number GB 0005340.5 filed on 03/07/2000 , now UK patent Number GB-2,359,975 and allowed corresponding EP Serial # 00968142.0.

No amendments have been filed after final rejection. As filed, on 07/21/2003, the subject application had 22 total claims. Among those claims were two independent claims, namely, claims 1 and 15. Claims 2-14 each depended directly or indirectly from claim 1, and claims 16-22 each depended directly or indirectly from claim 15, and thus all of claims 2-14 and 16-22 depended ultimately from claims 1 or 15 respectively.

A first Office Action, dated 03/22/2005, rejected claim 8 under 35 U.S.C. § 112, 2d paragraph because the word "onto" was missing in front of the words "said baked dough".

In the same Office Action, claims 1-12 and 15-20 were rejected under 35 U.S.C. § 103(a) as unpatentable over Lonergan et al. in view of Averbach; Claims 13-14 and 21-22 were rejected under 35 U.S.C. § 103(a) as unpatentable over Lonergan et al in view of Averbach and further in view of Loh et al.

Appellant filed a Response to the first Office Action on 08/19/2005. The Response amended independent claims 1 and 15 by incorporating the limitation of claim 10 to further distinguish the claimed invention from the cited references, amended claim 8 to overcome the § 112, 2d paragraph rejection and cancelled claim 10.

In the 08/19/2005 Response, Appellants objected to the proposed combination of art used by the Examiner and the conclusions drawn by the Examiner from such combination as both factually incorrect and legally improper. Appellants also provided detailed remarks regarding the scope and teachings of the applied art, specifying the limitations in the amended claims which are not taught, described, or suggested in the art relied on in the rejection, and explained how and why such limitations render the claimed subject matter patentable over the cited art.

A second, final Office Action was issued on 10/31/2005.

The final Office Action withdrew the rejection of claim 8 under 35 U.S.C. 112, 2d paragraph but maintained the rejection of claims 1-9 and 11-22 under 35 U.S.C. 103(a) in view of Lonergan et al., Averbach and Loh et al. for substantially the same reasons set forth in the previous action.

Appellant's requested and were granted an interview with the Examiner. The interview occurred on February 9, 2006 and was attended by one of the inventors, Mr. Kevin T. Rogers and Appellant's attorney, Mr. Krikelis. At the interview, Mr. Rogers provided further detailed remarks specifying the limitations in the amended claims which are not taught, described, or suggested in the applied art, and explained how and why such limitations render the claimed subject matter patentable over the cited art. Mr. Krikelis pointed out why in his opinion the cited art did not make a prima facie case of obviousness even if one were to accept the Examiner's position that the combination of references was proper. No amendments were offered during the interview and no agreement was reached, other than that the Examiner would reconsider her position on the issue of obviousness of the

process claims (claims 1-9) if Appellants would file a request for reconsideration setting forth certain argument presented[1] during the interview.

Such Request for Reconsideration was filed on February 15, 2006.

An Advisory Action was issued on 03/09/2006, stating that the request for reconsideration in the Response to the final Office Action had been considered but had not placed the application in condition for allowance because the reference (Silva et al) used by the Attorney during the interview and in the request for reconsideration disclosed a different glazing composition from Averbach and therefore was insufficient to support the Appellant's position. The Examiner reiterated her previous arguments.

A notice of appeal was filed on March 30, 2006.

V. SUMMARY OF INVENTION

Commercially there are two broad categories of doughnuts: cake doughnuts and yeast raised doughnuts, classified as such because of the different dough recipes used. Cake doughnuts use baking powder to form a batter that is then fried in hot oil, while yeast raised doughnuts use yeast enzymes to form a dough that must be "proven"[2] before frying. (Loh et al, column 1 lines 14-23). Cake doughnuts, as the name indicates have a cake like texture and taste. Yeast raised doughnuts on the other hand, have a crispy outer layer and fluffy interior. Unfortunately the frying step which gives the yeast raised doughnut its desirable taste attributes, also causes the doughnut to absorb and retain a substantial amount of fat.

In its broader aspect, the present invention produces a yeast raised doughnut by replacing the prior art frying step with the following three step process:

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[1] During the interview Appellants argued that U.S. 4,243,572 Silva et al, a reference of record but not applied, showed that contrary to the Examiner's unsupported position, the person skilled in the art would not choose to apply the coating taught in Averbach while the doughnut was still warm from the baking step as claimed.

[2] Proofing dough is a process during which under controlled raised temperature and humidity conditions dough is allowed to rise. A fully proven dough typically has risen to double the original size and the dough bounces back when gently touched. (For further information as to the meaning of the term "proof" in baking see Appendices "A" and "B").

(1) after proofing the dough, applying to the proven dough a coating comprising a cooking fat,

(2) baking the coated proven dough in an oven and

(3) applying a second coating of a cooking fat to the baked dough exiting from the oven while the dough it is still warm.

It has been surprisingly found that a baked yeast-raised doughnut has similar texture and taste as a deep fried yeast raised doughnut, provided an edible fat is applied to the doughnut surface in two distinct steps: before baking, and after baking while the doughnut is still warm, as disclosed and claimed. Because the dough has not been fried, the final product contains less fat.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(A) Claims 1-12 and 15-20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lonergan et al. in view of Averbach;

The two independent claims 1 and 15 represent the broadest aspects of this invention. Claim 1 is a process claim for making yeast raised doughnuts without frying and claim 15 is a product by process claim, directed to the low fat yeast raised doughnuts produced by the process of claim 1.

It is the Examiner's position that Lonergan et al. teach a process for giving any dough a fried taste, including dough used for making yeast raised doughnuts, by spraying the dough with an edible fat prior to baking.

The Examiner acknowledges that Lonergan et al. do not teach or suggest a post baking, second fat application, however it is the Examiner's position that such second fat application is shown in Averbach, whose teachings are directed to the application of an edible composition of wax and fat onto a cooked yeast raised doughnut to form a moisture barrier layer to increase the shelf life of the doughnut.

(B) Dependent claim 2 and independent claim 15 include the further limitation that the applied fat "consists essentially of a cooking fat or a combination of cooking fats".

The Examiner argues that the term "consists essentially of" used in the claim is equivalent to the term "comprises" and that this does not help distinguish the prior art because the specification or claims lack a clear indication of what the basic and novel characteristics actually are, and that, if the Appellant "contends that additional materials in the prior art are excluded by the recitation of 'consisting essentially of', applicant has the burden of showing that the introduction of the additional components would materially change the characteristics of applicant's invention." (See 10/31/05 Office action, page 5 lines 1-6).

(C) Claims 13-14 and 21-22 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lonergan et al in view of Averbach in view of U.S. Pat. No. 5,804,243 hereinafter Loh et al.

Claims 13, 14, 21 and 22 include the additional step of steam application during the baking cycle. Such step being absent in Lonergan et al. or Averbach the Examiner reaches to Loh et al. Loh et al. teaches the application of steam during baking when making cake doughnuts. According to the rejection, it would be obvious to the person skilled in the art to apply steam during the baking cycle of the yeast raised doughnut knowing that steam may be used in making cake doughnuts.

VII. ARGUMENT

(A) Rejection of claims 1 and 15 under 35 U.S.C. § 103(a) over of Lonergan et al. in view of Averbach.

For the following three reasons, Appellants traverse the Examiner's selection and interpretation of the teachings of Lonergan et al and Averbach, and the conclusions drawn from such interpretation as unsupported by the references.

(1) Failure to consider the invention as a whole.

It is well established that in determining whether an invention is novel and non-obvious, the claimed invention must be considered as a whole. (*In re Paulsen*, 31 USPQ2d 1671, Fed. Cir. 1994).

The disclosed and claimed invention is a process that replaces the prior art frying step used in making yeast raised doughnuts by a baking process. As a result less fat is absorbed by the doughnut during the cooking cycle and a lower fat content yeast raised doughnut is produced having similar texture and taste as the traditionally made yeast raised doughnuts. Specifically as claimed in the broadest claim the frying step is replaced by the following sequence of operations following proofing the dough:

> the proven dough is coated with a first coating comprising cooking fat or mixture of cooking fats before baking;
>
> the proven and coated dough is baked in an oven; and
>
> the dough coming out of the oven and while still warm, is again coated with a second coating comprising a cooking fat or mixture of cooking fats to produce the claimed low fat doughnut.

Independent claim 15 claims the resulting low fat yeast raised doughnut produced.

Lonergan et al discloses a process for creating a crisp dough when baking frozen pizzas. However Lonergan et al do provide one sentence in which they mention that the process is also applicable to other dough material including inter alia doughnuts. No details how this is to be done are provided.

Relying on this passing reference to doughnuts, and ignoring the totally different glaze composition which includes agents to keep the applied coating on the surface of the dough, the Examiner uses Lonergan et al. as the primary reference to show that applying a coating comprising cooking fat to yeast raised doughnut dough and subsequently baking the dough renders the dough crisp (and therefore mimics frying). According to the Examiner, Lonergan et al teach the claimed step of applying a first cooking fat to the yeast raised proven dough prior to baking the

dough, followed by baking the dough. Therefore the Examiner concludes, it is known to perform the steps of applying a coating of an edible cooking fat onto a proven dough prior to a baking step in order to obtain a product that tastes fried.

However, as explained in Lonergan et al, page 8 last paragraph and first two lines on top of page 9, "*Thus the glaze of the present invention mimics the effects of frying during baking by maintaining excess heated oil on the surface of the dough during baking, so that the crust effectively 'fries' in the oven and produces a baked product with fried organoleptic quality, which mimics the taste and texture of fresh fried products.*" In effect, when fully considered, Lonergan et al teach a process whereby a particular glaze may be applied to the surface of dough with a viscosity such that the composition stays on the surface so that it can actually fry the dough when the dough is heated in an oven.

Lonergan et al do not teach or suggest a post baking cooking fat application to achieve the texture and taste of a yeast raised fried doughnut.

In selecting Averbach to establish that the post baking application of an edible cooking fat to the baked dough is also known, the Examiner splits the process steps without regard to the invention as a whole.

Averbach teaches applying a glaze containing a fat and a wax to cooked yeast raised doughnuts selected for the express purpose of preserving freshness of stored doughnuts by forming a continuous sealing layer over the doughnut surface. Averbach is silent as to when this glaze is applied except that it is applied to fully cooked doughnuts to preserve their freshness.

Averbach has nothing to do with the claimed invention when considered as a whole. Averbach's process begins with a fully cooked yeast raised doughnut that already has the proper desired texture and taste of the fried yeast raised doughnut. Averbach's teachings are then directed to how to create a continuous moisture barrier over the cooked doughnut surface without altering its texture and taste. The present invention uses a post baking coating applied at a particular time during the cooking cycle on the baked doughnut surface (a surface that has already been pre-coated with first layer of cooking fat before baking) in order to change the texture and taste of the product exiting the oven.

Appellants believe that the Examiner is in error in using the Lonergan et al and Averbach references to support a case of obviousness because each of the applied references discloses different processes, solve different problems, and achieve results that are different from the results obtained when the full process is practiced.

In order to make a finding under 35 U.S.C. § 103 the Examiner must determine what is proper prior art. Prior art determination is not a mechanical process whereby if a reference contains a couple of magic words, the reference may be properly applied. Whether art is indeed prior art and what it teaches, is a fact question and both the art and the invention must be viewed as a whole. Thus if a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, the inventor may well have been motivated to consider the reference when making the invention. However if it is directed to a different purpose, the inventor would have had less motivation to consider it.(*In re Clay*, 23 USPQ2d 1058 Fed. Cir. 1992).

The problem addressed and solved by this invention is how to make a yeast raised doughnut without frying the dough thereby reducing the amount of fat absorbed in the dough, and do so without changing the taste and texture of the finished product. The solution offered by the present invention is a three step baking process that comprises pre and immediate post baking cooking fat applications.

By dividing the claimed process into separate process steps, ignoring the significance of the claimed sequence of steps and selecting only a portion of the claimed process at a time, the Examiner ignores the invention as a whole. The invention as whole, embraces the structure, its properties and the problem it solves. (*In Re Wright* 6 USPQ2d 1959, Fed. Cir. 1988.) The Examiner must consider "all the evidence of the properties of the claimed invention as a whole, compared with those of the prior art". (*In Re Dillon*, 16 USPQ2d 1897 Fed. Cir. 1990.) This the Examiner has failed to do.

(2) The claimed invention contains steps/elements that are neither present nor suggested by the applied art.

The following claimed steps are missing from the prior art cited by the Examiner;

(a) Applying a cooking fat coating to a proven dough and

(b) Applying a second coating of cooking fat to the baked proven dough while the dough is till warm from baking.

(i) Lonergan et al do not teach the step of applying a cooking fat to a proven dough.

It is the Examiner's position that the person skilled in the art would understand Lonergan et al. to teach applying a cooking fat to a proven yeast raised doughnut dough and baking the coated dough in a conventional oven, thereby replacing the frying step with a baking step, to obtain a doughnut that has the same taste and texture as a fried yeast raised doughnut.

Appellants do not agree with this understanding of the disclosure in Lonergan et al. Lonergan et al teach a process that achieves a twofold result in a single step. Lonergan et al show a process that simultaneously eliminates the need for proofing and creates a crisp dough such as would be created by straight frying. This is very significant because the person skilled in the art would immediately recognize that Lonergan et al do not suggest coating a proven dough with an edible cooking fat prior to baking.

The courts have explained that it is the understanding of the person skilled in the art that must be considered in establishing a prima facie case of obviousness, not the unskilled lay person. In *In Re Oetiker*, 24 USPQ2d 1443, Fed. Cir. 1992, Judge Nies writes:

What would be obvious to one skilled in the art is a different question to what would be obvious to a layman. An artisan is likely to extract more than a layman from reading a reference.

Appellants contend that the Examiner does not interpret the terms "proofing" and "proven dough" as the person skilled in the art would. Appellants also believe the Examiner is wrong in not considering the full disclosure of Lonergan et al, including the teachings that relate to the increasing of the dough size and proofing occurring during the baking cycle. A reference must be considered for all it teaches, including disclosures that teach away from the invention (*Ashland Oil Inc. v. Delta*

Resins and Refractories Inc. 227 USPQ 657, Fed. Cir. 1985). Had the Examiner done so, she would have recognized that Lonergan et al teach coating and baking an unproven dough and exclude proven dough from the disclosed process.

Lonergan et al states clearly and repeatedly throughout the description that his process of applying the specified glaze increases the size/geometry of the dough product thereby eliminating the need for proofing. (Increase Dough Size: Pg.3 Para 4,5/ Pg.4,Para1,2,4/ Pg.9.Para.2,4,5 Claim 29; eliminate Proofing Step: Pg.9, Para 2/ Pg.14, Para 5). To one skilled in the art, proofing is the approximate doubling in size of the dough due to the reaction of the yeast, flour and water to heat and humidity over a period of time. [3]

Increasing the dough size by definition eliminates the need to proof as one skilled in the art would readily recognize. Lonergan et al correctly teach that this happens because the high water content in the glaze (up to 90%) combined with the heat of the oven increases the size (geometry) of the yeast dough product. Therefore, one skilled in the art would not consider an additional proofing stage before baking in practicing the Lonergan et al process as this would over proof the product; over-proofing is an undesirable effect to be avoided.[4] The person skilled in the art, therefore, would not have a reasonable expectation of success if he were to practice Lonergan et al using dough that has been previously proven.

Lonergan et al describe exactly what is included in the preparation of the uncooked dough (Pg. 5, 6). They specifically state, (Pg. 6), that the mixing times and speeds for mixing are known in conventional dough processing. These variations, Lonergan et al state, are readily determined by one skilled in the art using conventional processing technology. Nowhere in the detailed description of

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[3] The proofing process is considered complete when the yeast dough product has doubled in size. Proofing can be done at room temperature under certain conditions. This is known as "Bench Proofing" and can take up to 12 hours and normally not less than 2 hours. Most bakeries use mechanical methods to proof quicker using machines called proofers that apply set amounts of heat and steam over a set period of time. (See appendix "B").

[4] Over proofing should avoided as it creates what is known as a "wet" or "soggy" product that has spread too much and become misshapen (See also Appendix "C").

conventional dough preparation does Lonergan refer to proofing[5]. On the other hand, Lonergan et al do teach that one can increase the size of the dough without proofing by using the disclosed glaze on an uncooked dough and baking in an oven.

The Examiner, in arguing that Lonergan et al do indeed teach coating a proven dough prior to baking, relies on example 2 of Lonergan et al.

In Example 2 Lonergan et al state that the prepared dough is allowed to proof for about 10 minutes (Pg.12, Para 3). This is not, as one skilled in the art, would recognize, proofing but a commonly used step known in the art as "resting the yeast". (See highlighted sections in Appendix A, pages 3 and 7). It is an incorrect use of the term "proof" and does not describe what is taking place at that point in this Example. The dough in this Example is only allowed to combine and slightly ferment in this time; in the brief time and under the specified conditions given, it will certainly not come remotely close to doubling in size if it even increases at all, and therefore will not be recognized as "proven" dough by the person skilled in the art.

The Examiner's argument that proofing could have taken place before this stage is incorrect speculation. More important, Lonergan's examples 2, and 3 clearly indicate that the dough is frozen prior to baking. The person skilled in the art knows that proven dough cannot be frozen and then baked, or frozen, defrosted and then baked.

Yeast is a live organism and is significantly compromised by cold. It is very well known to one skilled in the art that you cannot freeze/refrigerate an already proven yeast dough without significantly compromising the final product. On page 9 last paragraph, (C. Method of Producing Baked Goods with Fried Characteristics and Enhanced Baked Product Geometry), Lonergan et al describe specifically that the glaze, which will increase the size of the dough product (which would have been

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[5] It is noteworthy that even though Lonergan et al. provide extensive details on the different steps for the production of dough used in the disclosed process, there is no description of a proving step. To the contrary, in a later patent by the same inventors, U.S. patent No. 6,787,170 (Hereinafter Lonergan II), the inventors fully describe a proofing step, such step being essential to the process disclosed in Lonergan II. One may assume that had a proofing step been contemplated when practicing the process of Lonergan et al. a similar description would have been included.

achieved otherwise by proofing), can be applied to either fresh dough that is to be frozen, unbaked dough already frozen or a refrigerated dough product. As all of these applications of Lonergan's method require a freezing or refrigeration step it is clear to anyone skilled in the art that these dough formations have not been proofed. The "preparation" of the uncooked dough, if it contains yeast, does not and cannot include proofing if the dough is then frozen or refrigerated[6].

Therefore, contrary to the Examiner's understanding, Lonergan et al, do not describe a proofing step and the person skilled in the art would know that Lonergan et process does not include, teach or suggest the claim step of coating the proven dough.

Lonergan et al also do not suggest or teach a second application of a cooking fat to the still warm dough following baking. To fill in this deficiency the Examiner reaches to Averbach.

(ii) Averbach does not teach applying a second coating of cooking fat to the baked proven dough while the dough is till warm from baking.

Averbach teaches placing a continuous moisture barrier on a doughnut, including a yeast-raised doughnut, the moisture barrier comprising an edible oil in combination with an edible, tasteless wax, prior to coating the doughnut with a top coating such as icing etc. in order to increase shelf life of doughnuts. Averbach makes it quite clear that the disclosed process does not alter the taste/texture of the doughnut on which the disclosed glazed is applied. (Column 9, lines 13-17).

Averbach teaches applying the disclosed glaze to the fully cooked doughnut to prevent moisture from escaping, thereby increasing product shelf life. The Averbach process is applied to a conventionally fried yeast raised doughnut and could be applied to a yeast raised doughnut prepared according to the present process

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[6] Supermarkets around the world want this type of product but it doesn't exist. It is the "Holy Grail" of the food industry. (See Appendix D). The frozen bread, rolls and other frozen yeast raised dough products for sale have been proofed and then part-baked prior to freezing. The part baking sets the dough structure of the product so that it can be frozen and then baked to completion at a later stage. Without the part-baking step the dough structure is not set and the proven product will be ruined by freezing.

following the application of the second cooking fat coating. Averbach teaches a freshness preservation post cooking step, not a process step that is a substitute for the steps required to cook the present yeast raised doughnut so as to achieve the desired fried texture according to the present invention.

Averbach does not disclose or teach any specific process parameters for making the doughnuts, except to state in column 8 lines 63 to 68 that "*Doughnuts made from a yeast-raised are used since these are usually the base for 'honey dipped' doughnuts. The molten fat solution is maintained at 150° F. and the doughnut is immersed in the melt and withdrawn immediately.*"

This statement does not teach a specific step of " ... applying a second coating comprising a second cooking fat to said baked proven dough mixture while said baked proven dough mixture is still warm from said baking step to form said yeast raised doughnut" as claimed in the present invention.

A complete review of Averbach shows that Averbach nowhere suggests that the coating must be applied while the dough is warm. Averbach's only restriction is that the coating solution be applied to a finished doughnut and that the coating solution, not the doughnut, be above a certain temperature.

The Examiner argues that "*It would have been obvious to one skilled in the art to apply the barrier coating as the doughnuts exist (sic) the oven to keep the process continuous and also the coating will easily melt into the surface of the dough while the doughnuts are still warm. The time of application is a result-effective variable which is within the determination of one skilled in the art. For example, in a continuous process, one would not leave off applying the coating after the doughnuts exist (sic) the oven because that will break the continuity of the process and cause delay in the production process*" (See Office Action dated 10/31/2005.)

This argument is unsupported by the record and is speculative. It is also technically wrong.

Speculative arguments cannot be used to determine patentability. In *In Re Thrift*, 63 USPQ2d, 2002, Fed. Cir. 2002 the court explained that with respect to core findings in a determination of patentability the Examiner cannot simply reach

conclusions based on her own understanding or experience, or on her own assessment of what would be basic knowledge or common sense. The Examiner must point to some concrete evidence in the record in support of such findings.

The speculation is also technically wrong. The objective of Averbach is to produce a water impermeable continuous coating on the surface of the doughnut, encasing and sealing the doughnut. Averbach uses a wax/oil glaze to achieve this result. Averbach is silent regarding the temperature of the doughnut surface when the glaze is applied, therefore, the reasonable assumption is that the glaze is applied in the manner known in the art for applying moisture barrier glazes onto doughnut surfaces.

If the glaze is applied while the doughnut surface is hot, as the Examiner suggests, the glaze will melt and penetrate the doughnut mass, again as suggested by the Examiner. Averbach's objective, however, is not penetration of the glaze into the doughnut mass but creation of a continuous shielding layer on the doughnut surface; furthermore, if one's objective is not to change the texture and taste of the doughnut, one would prefer to limit the amount of material deposited thereon[7]. To do this the doughnut surface must be cool enough for the glaze to coalesce on the surface and not penetrate in the doughnut mass.

This is actually taught in the prior art. U.S. Patent serial number 4,293,572, hereinafter Silva et al, discloses a composition and process for applying a moisture barrier on the surface of a doughnut including a yeast raised doughnut. Silva et al, beginning in the last paragraph in column 6 and continuing in column 7, explains:

"The surface temperature of the doughnut at the time of the application of the coating should be between 90° and 100°F. so that the coating material will set substantially rapidly but will not penetrate too deeply into the surface of the donut, while producing a thin uniform coating which does not interfere with the eating characteristics of the donut." (Emphasis added.)

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[7] Averbach, column 2 lines 1-3.

This point was presented to the Examiner during the interview and again in Appellant's response to the final office action, filed on February 21, 2006.

In the advisory action dated 03/09/2006, the Examiner rejects the teachings of Silva et al on the grounds that the composition disclosed by Averbach is different from the composition disclosed by Silva et al. and therefore the Silva et al teachings are irrelevant. Yet, both compositions contain oil and both have the same objectives. Silva et al, the only evidence on record on the question of when should the barrier composition be applied and under what conditions, directly contradicts the Examiner's speculative and unsupported conclusions as to how the Averbach barrier would be applied by the person skilled in the art.

In the absence of any evidence why the Averbach coating would be applied while the doughnut is still warm from baking, the person skilled in the art would know to apply such coating according to the practice in this art field, i.e. as taught by Silva et al. and would understand that applying the coating while the doughnut is warm as suggested by the Examiner defeats the objective of Averbach.

Averbach lacks an element of the claimed invention, specifically that the second fat application occurs while the doughnut is still warm from the baking cycle, and there is no evidence to suggest that such step is obvious and does not support a prima facie case of obviousness.

(iii) The motivation for combining the references is absent in the references and can only be found in the present invention.

A proper combination of references requires that there is an incentive within the references themselves for the proposed combination. (*In Re Bond,* 15 USPQ2d 1566, Fed. Cir. 1990). Thus the Examiner erred in rejecting the claimed invention as an obvious combination of the teachings of Lonergan et al and Averbach because neither provides a teaching, suggestion or incentive supporting the combination. It is not obvious to combine the teachings of prior art for any purpose they may be combined, in order to defeat patentability of the appellants new process and to consider irrelevant the fact that the claimed process is for a different purpose and has steps that are not suggested by the applied art, or that it results in a product

different from the product that would result from the proposed combination. (*In Re Dow Chemical Co.* 5 USPQ2d 1529, Fed. Cir. 1988.)

In the present instance the Examiner proposes the combination because both references address doughnut manufacturing and each shows some steps that when taken individually and out of context are similar to the claimed step. Lonergan et al. contains steps including a pre-bake application of a cooking fat onto dough which may be doughnut dough and Averbach shows the application of an edible fat onto the surface of a cooked yeast raised doughnut.

However, as the Federal Circuit explained in *Northern Telecom, Inc. v. Datapoint Corp.*, 15 USPQ2d 1321, in 1990, it is insufficient that the prior art disclosed the components of the patented device, (here: process) either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor.

Such teaching, suggestion, or incentive is absent here. The person skilled in the art would shy away from combining the teachings of Averbach with the teachings of Lonergan et al because such combination would be the direct opposite of what would be desired following the Lonergan et al procedure.

Lonergan et al teach a glaze that contains a substantial amount of water. Due to the very large amounts of water added to the yeast raised dough following the Lonergan et al disclosed glaze application, the product would be what is known to one skilled in the art as a "wet" or "soggy" product[8]. Far from looking for a method of preserving the water content in the baked dough, one would be looking to do just the opposite. At the very least one would leave the product to benefit from normal evaporation which would not occur with a complete moisture barrier such as that disclosed by Averbach. It would simply not be logical to one skilled in the art to add

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[8] See Lonergan II, the Background of the invention section, where Lonergan II state that the presence of water in the glaze applied to dough including doughnut dough, as taught by Lonergan et al., is undesirable, and should be eliminated in order to improve the fried qualities of the food product after baking.

a further process step to Lonergan's process that will retain excess moisture in the doughnut[9]. Just the opposite would be true.

Therefore the only reason to combine the two references is based on the present invention which claims a pre and post bake application of a coating containing an edible fat. "However it is impermissible to use the claimed invention as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious....The Federal Circuit has previously stated that [o]ne cannot use hindsight to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.". (*In Re Fritch*, 23 USPQ2d 1780, Fed. Cir. 1992). The combination of Lonergan et al with Averbach must be rejected as lacking motivation to combine.

B. Rejection of claims 2 and 15 under 35 U.S.A. § 103(a) under Lonergan et al in view of Averbach.

Dependent claim 2 and independent claim 15 contain the additional limitation that the applied coating consists essentially of a cooking fat.

Relying on section 2111.03 of the MPEP, the Examiner reasons that the term consists essentially of used in the claim is equivalent to the term "comprises" and does not help distinguish the prior art because the specification or claims lack a clear indication of what the basic and novel characteristics actually are, and that, if the Appellant "contends that additional materials in the prior art are excluded by the recitation of 'consisting essentially of', applicant has the burden of showing that the introduction of the additional components would materially change the characteristics of applicant's invention." (See 10/31/05 Office action, page 5 lines 1-6).

Applicants believe that such conclusion by the Examiner is erroneous.

In page 7, lines 22-26 of the specification, applicants define the term "consists essentially of" as follows: "As used herein, the term "consists essentially of cooking fat" as applied to a fat formulation indicates that the formulation consists only of fats or oils as described above in any common grade of purity."

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[9] See footnote 8 above.

Averbach teaches an oleaginous composition that includes an edible wax that does not change the texture and taste of the doughnut to which it is applied and rejects the use of an oil coating alone in column 2, lines 1-3 where it clearly states that "...(use of) oleaginous materials (fats and oils), it has been shown that, unless an undesirably thick coating is used, the barrier effect is ineffective".

Appellant's specification teaches that the application of the cooking fat composition used changes the taste and texture of the baked doughnut so that the doughnut tastes similar to the fried yeast raised doughnuts.

Applicants have met their burden by pointing out that their composition excludes the use of an edible wax as taught by Averbach since such inclusion would appear to operate to defeat the objective of their invention, that is the change of the taste and texture of the doughnut dough.

Lonergan et al add a viscosity controlling substance in their coating composition. As explained in Lonergan et al, page 8 last paragraph and first two lines on top of page 9, "It is believed that it is the preselected viscosity of the glaze that retains the oil component of the glaze on the surface of the dough product. Specifically, the glaze of the present invention is of sufficient viscosity to retain the oil at the surface of the dough during baking. Thus the glaze of the present invention mimics the effects of frying during baking by maintaining excess heated oil on the surface of the dough during baking, so that the crust effectively 'fries' in the oven and produces a baked product with fried organoleptic quality, which mimics the taste and texture of fresh fried products."

However, the objective of the present invention is not to fry the dough, whether in a frying pan or in an oven, because frying results in the dough absorbing more fat that baking, thereby excluding the viscosity controlling additives taught by Lonergan et al. Again the inclusion of the viscosity control elements would appear to operate against the objective of the invention.

Finally, neither Lonergan et al nor Averbach indicate that the result obtained using their respective glaze compositions results in a low fat yeast raised doughnut. To paraphrase the court in *In Re De Lajarte*, 143 USPQ 256, 259 CCPA 1964, *in the total absence of evidence in the record to indicate that cooked dough prepared under*

the Lonergan et al process would have the desirable effect of reduced fat in a yeast raised doughnut and still maintain the same texture and taste as a fried doughnut, there is no justification for placing the burden on Appellants to conduct experiments to determine the taste, texture and fat content of yeast doughnuts prepared using either the Lonergan et al or the Averbach glaze. Appellants have shown that doughnuts produced by the disclosed process have novel properties, i.e. lower fat with similar taste and texture than doughnuts of the prior art.

Applicants have shown that the term "consisting essentially of" used in claims 2 and 15 distinguishes over the cited art and request that this rejection of claims 2 and 15 be reversed.

C. Rejection of claims 13, 14, 21 and 22 under 35 U.S.A. §103(a) under Lonergan et al in view of Averbach and in view of Loh et al.

Claims 14, 21 and 22 are all dependent claims depending from claim 1 and 15 respectively, and as such include all of the limitations of such claims. However claims 13, 14, 21 and 22 include the further limitation that steam be applied to the baking dough during the baking cycle.

The Examiner rejects these claims on the grounds that the added limitation would be obvious in view of the disclosure in Loh et al.

Loh et al explicitly distinguish yeast raised doughnuts from cake doughnuts, and teach that cake doughnuts, as distinguished from yeast raised doughnuts may be produced by a process that employs steam during the baking cycle. Loh et al use the steam to prevent creation of a crusty surface on the cake doughnut during baking, a problem specific to a particular product, i.e. the cake doughnut.

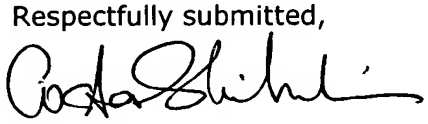
The person skilled in the art would, therefore, not only not look to Loh et al for a process that makes baked yeast raised doughnut dough taste like fried dough, but, having read Loh et al, would avoid using steam as it would appear that the application of steam prevents the formation of a crusty surface and enhances the cake-like texture and taste of the dough rather than assist in providing a crisp, fried-like texture and taste as desired.

In the absence of any reasonable expectation of success, reversal of the Examiner's rejection of claims 13, 14, 21 and 22 is therefore believed proper.

Conclusion.

Because the Examiner has relied on art that is not proper prior art, that does not show all of the claimed inventive features and that provides no motivation for the proposed combination Appellants believe that a prima facie case of obviousness has not been made and therefore the rejection of all claims should be reversed and the application with the claims as amended allowed to issue.

Respectfully submitted,



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Dated: June 30, 2006

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Gayle D. Bay

VIII. CLAIM APPENDIX

CLAIMS

1. A process of manufacturing a yeast raised doughnut, the process comprising the following steps performed in the sequence shown:
(a) forming a proven dough mixture;
(b) applying a first coating comprising a first cooking fat to said proven dough mixture;
(c) baking said coated proven dough mixture to form a baked proven dough mixture; and
(d) applying a second coating comprising a second cooking fat to said baked proven dough mixture while said baked proven dough mixture is still warm from said baking step to form said yeast raised doughnut.

2. The process according to claim 1 wherein at least one of said first coating and said second coating consists essentially of a cooking fat or a combination of cooking fats.

3. The process according to claim 1 wherein said first and said second cooking fats consist essentially of a cooking fat or a combination of cooking fats.

4. The process according to claim 3 wherein said first and said second cooking fats are the same.

5. The process according to claim 1 wherein at least one of said first and said second coating comprises at least 80% by weight of a fat selected from the group consisting essentially of palm oil, rapeseed oil, soya or a combination thereof.

6. The process according to claim 1 wherein said first and said second cooking fats each comprise soya, palm oil, rapeseed oil, or a combination thereof.

7. The process of claim 1 wherein said first cooking fat is solid at room temperature and said step of applying a first coating to said proven dough mixture

comprises heating and spraying said first cooking fat onto said proven dough mixture at a temperature sufficient to melt said first cooking fat and insufficient to initiate any cooking of the proven dough mixture.

8 The process according to claim 7 wherein said second cooking fat is also solid at room temperature and the step of applying a second coating onto said baked proven dough with said second cooking fat comprises heating and spraying said second cooking fat onto said baked proven dough.

9. The process according to claim 8 wherein the first cooking fat is the same as the second cooking fat.

10. (Cancelled)

11. The process according to claim 8 wherein said step of spraying said second cooking fat formulation onto said baked proven dough is performed within 3 minutes following the step of baking said proven dough.

12. The process according to claim 1 wherein at least one of said first and second fats consists essentially of a solid vegetable shortening.

13. The process according to claim 1 wherein the step of baking said coated proven dough further comprises applying steam to said proven dough.

14. The process according to claim 13 wherein said steam is applied for one second for every minute of baking.

15. A low fat baked yeast raised doughnut produced by:
(a) forming a proven dough mixture;
(b) applying a first coating consisting essentially of a first cooking fat to said proven dough mixture;
(c) baking said coated proven dough mixture to form a baked proven dough mixture; and

(d) applying a second coating consisting essentially of a second cooking fat to said baked proven dough mixture while said baked proven dough mixture is still warm from said baking step to form said low fat yeast raised doughnut.

16. The doughnut according to claim 15 wherein said first cooking fat is the same as the second cooking fat.

17. The doughnut according to claim 15 wherein said step of applying said second cooking fat onto said baked proven dough is performed by spraying said second cooking fat onto said baked proven dough within about 3 minutes following the step of baking said coated proven dough.

18. The doughnut according to claim 15 wherein said step of coating said second cooking fat onto said baked proven dough is performed by spraying said second cooking fat onto said baked proven dough within about 1 minute following the step of baking said coated proven dough.

19. The doughnut according to claim 15 wherein said at least one of said first and second fats consist essentially of a solid vegetable shortening.

20. The method according to claim 19 wherein said solid vegetable shortening is palm oil.

21. The doughnut according to claim 15 wherein the step of baking said coated proven dough comprises applying steam to said dough during at least a portion of said baking step.

22. The doughnut according to claim 21 wherein said steam is applied for one second for every minute of baking.

IX. EVIDENCE APPENDIX

The Appellant does rely upon the following evidence in support for arguments presented in the foregoing sections of this appeal.

A. Doughnut-Background, History, Raw Materials, The Manufacturing, Quality Control.

(http//www.madehow.com)

B. Vie de France Technical support/FAQ's

(http://www.viedefrance.com/content/techsupport.htm).

C. Belshaw-Donut/Doughnut Friers, Machines and Equipment-Ovens and Bakery equipment/ Support.(http://www.belshaw.com)

D. Letter from Technical support manager Peter Harris of Cereform Ltd. Regarding non existence/use of frozen proofed dough for baked products.

X. RELATED PROCEEDINGS APPENDIX

No proceedings other than this Appeal have transpired relating to the subject matter thereof, and no related decisions have been rendered by a court or the Board.

Appendix A.

Doughnut forum
How Products Are Made :: Volume 5

Doughnut

Background

The doughnut is a fried ring or globule of sweet dough that is either yeast leavened or chemically leavened. The dough is mixed and shaped, dropped into hot oil and fried, and glazed. Jam-filled doughnuts are called bismarks. Batters vary and may be chocolate or lemon and include fruits such as blueberries, raisins, or nuts. Chemically-raised donuts are made with baking powder and are generally rather dense and cake-like. They are easily and quickly made. Yeast-raised doughnuts, which is leavened by the creation of carbon dioxide resulting from fermentation of yeast, are lighter in texture than chemically-raised doughnuts. They require several hours to produce.

These sweet treats are easily made at home using basic ingredients and require no special equipment. Doughnuts are baked and sold on premises at small, privately run bakeries, grocery stores, and in franchise operations that offer a standard product through the use of a pre-packed mix and carefully-controlled production. Large commercial bakeries make thousands of dozens of doughnuts each day, packaging them for distribution across vast regions.

Doughnuts are a beloved American snack. Children sing their praises in a song that begins "Oh I went downtown and walked around the block/I walked right into the doughnut shop..." Clark Gable taught Claudette Colbert how to dunk her doughnut in the classic 1934 movie "It Happened One Night." Many World War I and II veterans swear that doughnuts served in canteens got them through the roughest of times. Dough-nut franchises have flourished in the United States since the 1930s. Despite their fat content (at least 3 g) and calorie content (a minimum of 200), Americans alone consume 10 billion doughnuts each year.

History

The doughnut supposedly came to us from the eighteenth century Dutch of New Amsterdam and were referred to as *olykoeks,* meaning oily cakes. In the nineteenth century, Elizabeth Gregory fried flavored dough with walnuts for her son Hanson Gregory, hence the name doughnut. By the late nineteenth century, the doughnut had a hole.

Doughnuts were a great favorite at lumbering camps of the Midwest and Northwest as they were easy to make and full of calories needed to provide quick energy for arduous logging jobs. "Doughboys" of World War I ate thousands of doughnuts served up by the Salvation Army on the French front. Soldiers reminisced that the doughnut was far more than a hot snack. The doughnut represented all the men were fighting for—the safety and comfort of mother, hearth, and home.

Soon after the doughboys returned, dough-nut shops flourished. A Russian immigrant named Levitt invented a doughnut machine in 1920 that automatically pushed dough into shaped rings. By 1925, the invention earned him $25 million a year and it was a fixture in bakeries across the country. The machine-made doughnut was a hit of the 1934 World's Fair. Other machinery quickly developed for everything from mixing to frying. Franchises soon followed. By 1937, Krispy Kreme was founded on a "secret recipe" for yeast-raised doughnuts and Dunkin' Donuts (currently the franchise that sells the most

doughnuts worldwide) was founded in Massachusetts. Presently, Krispy Kreme totals 147 stores in 26 states, while Dunkin' Donuts has 5,000 franchises in the United States and is present in 37 countries.

Raw Materials

Ingredients vary depending on whether they are yeast or chemically leavened. Furthermore, homemade doughnuts generally include far few ingredients than mass- produced or those made from mixes. Chemically-raised doughnuts are made with ingredients such as flour, baking powder, salt, liquid, and varying amounts of eggs, milk, sugar, shortening and other flavorings. This type of doughnut uses baking powder in the batter to leaven the dough. Yeast-leavened doughnuts are made with ingredients that include flour, shortening, milk, sugar, salt, water, yeast, eggs or egg whites, and flavorings.

Doughnuts produced in sanitary baking conditions in grocery stores, bakeries, or franchises often come from pre-packaged mixes. These vary but can include: flour (wheat and soy flour), shortening, sugar, egg yolks, milk solids, yeast dough conditioners, gum, and artificial flavors. One franchise adds a yeast brew. Mixes require the bakeries to add fresh wet ingredients such as water, milk, and eggs in the mixing process. Doughnuts also require oil (usually vegetable oil) for frying. Glazes or frostings are often added after the product is fried and are made with flour, sugar, flavoring, and sometimes shortening.

The Manufacturing Process

This process will describe the manufacture of doughnuts in a mechanized doughnut bakery that makes only yeast-raised doughnuts. Because yeast requires time for kneading, time to rest and additional time to rise or proof, it takes at least an hour to take dry pre-packaged mix to completed product.

Acquiring the ingredients

- 1 Bakeries or franchises that do a brisk business (making hundreds of dozens in a day) acquire mixes in bags, often as large as 50 lb (22.7 kg). Chains have the ingredients shipped to them from company warehouses within the region and the mixes are stored on the premises and used as needed. The bakery must shop for large quantities of perishable fresh ingredients such as eggs and milk and keep them refrigerated.

Measuring the ingredients

- 2 A batch is referred to by weight of dry ingredients put into the mixture. The weight of the batch varies with doughnut type and amount to be made. The pre-packaged mix is poured from a bag onto a scale and the precise amount measured.

Mixing and kneading

- 3 The flour mixture is then poured into a large mixing bowl put onto an industrial mixer and the appropriate amount of wet ingredients are added depending on weight of the batch and type of doughnut in production. The wet yeast slurry (for leavening) is mixed separately and carefully added to the flour-water mixture at this time. The dough mixer then begins its work; a large dough hook first mixes and then simulates the human kneading process, pulling and stretching, as it

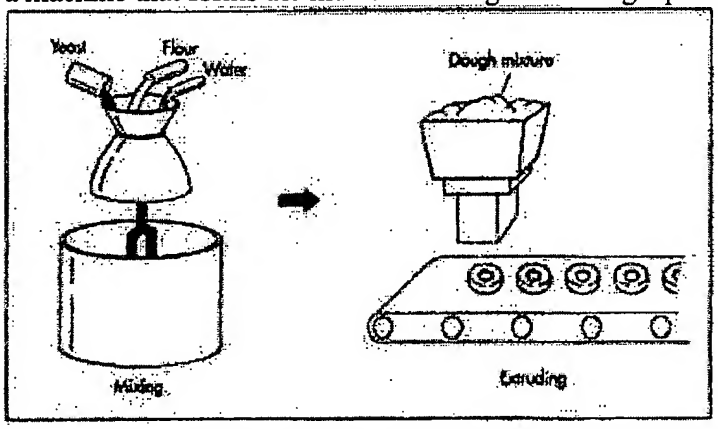
homogenizes the ingredients and develops the dough by forming the gluten into elongated and interlace fibers that form the basic structure of the doughnut. The mix runs on an automatic timer and the entire mixture, including the softened yeast, is kneaded together for approximately 13 minutes.

Resting the yeast

- 4 It is essential that yeast dough "rests" or simply sits for about 10 minutes after it is mechanically kneaded. As the yeast grows, it converts its food into carbon dioxide (this is called fermentation) and causes the yeast dough to rise. As the dough sits, it allows the gas to develop and the dough starts to rise, indicating the fermentation process of the yeast reacting to sugar in the mix is beginning. If this does not happen, the dough yields flat, tough doughnuts and the mix should be discarded. At the end of this period, a good-quality dough is spongy and soft.

Shaping the doughnuts

- 5 The dough is then hoisted by hand and loaded into the hopper of a machine called an extruder—a machine that forms the individual doughnuts using a pressure-cutter



The premeasured flour mixture is mixed with the appropriate amount of wet ingredients The wet yeast slurry (for leavening) is mixed separately and carefully added to the flour-water mixture. Next, a large dough hook first mixes and then simulates the human kneading process, pulling and stretching, as it homogenizes the ingredients and develops the dough by forming the gluten into elongated and interlace fibers that form the basic structure of the doughnut. Once the yeast has had time to rise, the dough is loaded into a hopper that feeds the dough through an extruder. A cover is then placed on the machine and the machine is pressurized, forcing the dough into tubes that 'plop" out a pre-determined amount of dough into the desired shape—rings for conventional doughnuts and circles for doughnuts that are to be filled with jam or creme.
system. The batch of yeast dough is put into the top of the open machine. A cover is then placed on the machine and the machine is pressurized, forcing the dough into tubes that extrude a pre-determined amount of dough into the desired shape—rings for conventional doughnuts and circles for doughnuts that are to be filled with jam or creme. It takes about 15 minutes for the extruder to push out about 30 dozen doughnuts.

An automated doughnut stamper can also be used in conjunction with an extruder. In this case, the dough is extruded in a continuous, unshaped flow through a series of rollers that flatten the dough. Once flattened to 0.5 in (1.27 cm) thickness, the sheet of dough is stamped into doughnut shapes.

Proofing

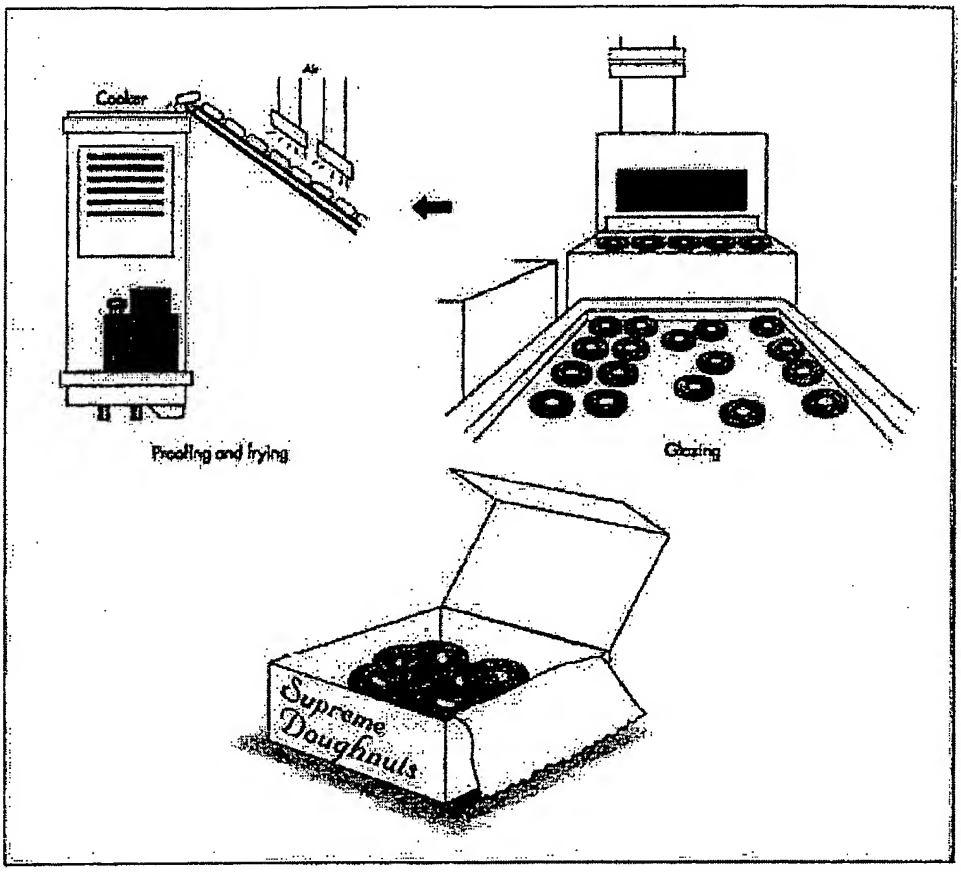
- 6 The extruder is attached directly to the proofing box (a warm, oven-like machine), which is a hot-air, temperature-controlled warm box set to approximately 125° F (51.6° C). Here, the thin doughnuts are slowly allowed to rise or proof as the yeast ferments under controlled conditions. Proofing renders the doughnuts light and airy. (Yeast doughs must be allowed to rise slowly and at just the right temperature. If the proofing box is too hot, the yeast bacteria will be killed and the doughnuts will not rise. If too cold, the yeast remains inactive and cannot ferment thus preventing leavening. A machine attached to the extruder pushes the rings or circles onto small shelves that move through the proof box for about 30 minutes. The shelves are chain-driven and move down, up, and over during this 30 minute period. After 30 minutes, they are quite puffy.

Frying

- 7 Next, the raw doughnuts fall automatically, one row at a time, into the attached open fryer. It is important to drop just a certain amount of raw doughnuts into the grease at a time. If too many are placed in the fryer at one time, the oil temperature is drastically lowered, fry time is longer, and the doughnuts absorb too much oil. The frying oil is the most expensive ingredient in the production process, and if the doughnuts absorb too much oil, it reduces the profit margin on the batch. As the doughnuts move through the fryer, they are flipped over by a mechanism. After two minutes, the doughnuts have moved completely through the fryer and are forced into the mechanism that applies glaze.

Glazing and drying

- 8 As the doughnuts leave the fryer, they move under a shower of glaze. Here, glaze is forced through holes from a bridge running several inches above the hot doughnuts. The glaze coats the top, sides, and part of the bottom of the doughnuts. The doughnuts are conveyored out of the production area to dry and cool.



The raw doughnuts are conveyored to the proofing box, a warm, oven-like machine that slowly allows the doughnuts to rise or proof as the yeast ferments under controlled conditions. Proofing renders the doughnuts light and airy. After proofing, the raw doughnuts fall automatically, one row at a time, into the attached open fryer. It takes two minutes for a doughnut to move through the fryer. Next, the doughnuts move under a shower of glaze. The doughnuts are conveyored out of the production area to dry and cool.

Further finishing and sale

- 9 Once conveyored to a finishing station, the doughnuts may be sprinkled with candies or nuts or are given a thicker frosting. The disk-like doughnuts (those with no hole) are forced onto a machine that injects two doughnuts at a time with the desired, pre-measured filling. The completed doughnuts are placed on trays for movement to the counter or packed into boxes for custom orders.

Quality Control

Packaged dry mix is made to specifications and checked at the processing plant. Perishables must be purchased fresh and quickly used. The yeast brew must be precisely mixed and used within 12 hours. It is essential for employees to carefully monitor all intervals of time for kneading, resting, proofing, and frying.

Temperatures for proofing, baking, and frying machinery, liquid ingredients, and the production room are carefully monitored and maintained. Particularly important is adding the right temperature of water

to the yeast brew and pre-packaged mix so the yeast is not inhibited or killed. The proofer must be precisely set at the right temperature—not too hot but warm enough to activate the yeast—or the yeast will be killed and the doughnuts will not rise. The fryer temperature is carefully determined so that the doughnuts will not absorb too much oil and be greasy. Employees must watch the ambient room temperature very carefully. If it is too hot in the room, it affects the rising of the yeast and may require re-calibration of the temperature of other machinery.

Finally, employees' senses tell them much about the quality of the dough. They can tell by the feel of the dough after it is mixed if the dough is spongy and the yeast is rising properly. Watching the doughnuts plump up in the proofer indicates the temperature is just right. They watch for the appropriate color of the frying doughnuts to ensure they're not overcooked. Occasionally, the manager may pull a doughnut off the drying conveyor and pull it apart to see if it is too greasy.

Byproducts/Waste

Using the extruding device that simultaneously cuts the dough into individual doughnut shapes, alleviates much of the dough waste. The stamping mechanism leaves excess dough, but that dough can be re-mixed into the next batch.

Where to Learn More

Books

Fischer, Paul. "It's Time to Praise the Doughnuts." *Boston Magazine* (May 1991): 66.

Rombauer, Irma S. *The Joy of Cooking.* New York: The Bobbs-Merrill Co., Inc., 1953.

Periodicals

Taylor, David A. "Ring King." *Smithsonian Magazine* (March 1998).

Other

Dunkin' Donuts. http:///www.dunkindonuts.com/.

Krispy Kreme. http://krispykreme.com/.

—Nancy EV Bryk

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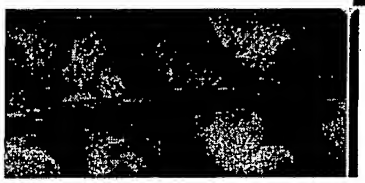
Appendix B.



Technical Support/FAQ's

Foodservice Bakery/Café Employees

- Foodservice
- What's New
- Products
- Promotions
- Sales Rep/Broker Locator
- Menu Ideas
- Technical Support / FAQ
- Career Opportunities

We operate a technical School of Baking near our corporate headquarters to provide comprehensive training in the proper handling and preparation of Vie de France bakery products. The classes are taught by members of our Technical Support Staff who have been trained in various aspects of baking and the culinary arts.

The School offers two programs provided free of charge to Vie de France customers: a three-day Par-bake Bread/Frozen Laminated Dough course and a five-day Frozen Bread Dough/Frozen Laminated Dough course. Both courses include training on Frozen Dough Cookies, Muffins and Brioche. The curriculum is designed to teach the fundamentals of running a successful frozen dough bake-off operation. The classes cover baking, finishing techniques, production, merchandising, menu ideas and troubleshooting.

We limit class size to allow personalized instruction of the step-by-step baking techniques, as well as provide information on the equipment recommended by the School. In certain cases, training can be completed on-site at your location. Students graduate from the School of Baking with the knowledge and skills to run a successful operation with confidence.

Frequently Asked Questions

1. **Do I have to bake Vie de France products in a convection oven?**
   No. However, optimum results will be more difficult to achieve. Conventional Oven: increase oven temperature 25-50 degrees more than the baking instructions printed on the box label, and increase bake time an additional 5-15 minutes. It is very important to use an oven thermometer to

verify accurate oven temperature. If bake time is exceeding more than 5-15 minutes longer than initial bake time, you may need to increase temperature more than 50 degrees.

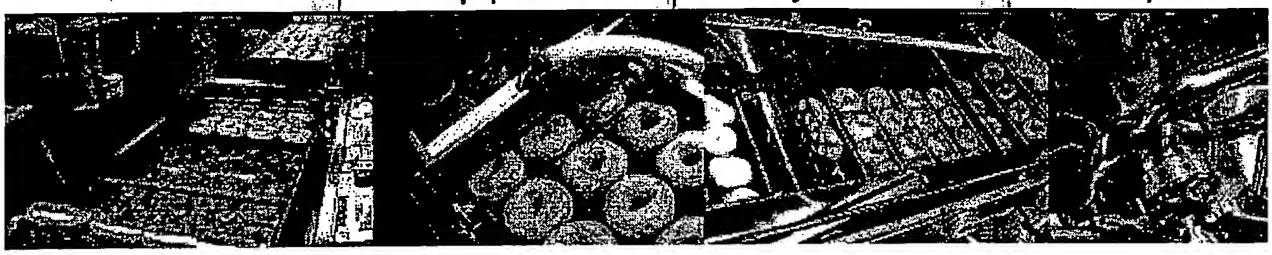
2. **Can I use Vie de France products if I do not have a proofer?**
Yes. The process of proofing without a proofer is called bench proofing. This can be done several ways. **Option 1**: Place frozen product on a sheet pan lined with parchment paper. Cover each pan with a plastic poly bag or cover entire rack with a rack cover. Place under refrigeration overnight. The following day, place pans at room temperature, covered, in a warm area of the kitchen. DO NOT place on or next to extreme direct heat. Direct heat will cause butter to melt out of croissants or cause a crust to form on bread preventing it from rising evenly. Product is proofed when it doubles in size and bounces back when gently touched. Exact proof time will vary depending on product type and room temperature. Please use the following as a guideline only. The following times are based on a 70° F room temperature. Croissants: 2-4 hours, Danish/Cinnamon Swirls: 2-5 hours, bread: 2½-5½ hours. **Option 2**: Place frozen product on a sheet pan lined with parchment paper. Cover each pan with a plastic poly bag or cover entire rack with a rack cover. Leave frozen product at room temperature until it doubles in size and bounces back when gently touched. Exact proof time will vary depending on product type and room temperature. Please use the following as a guideline only. The following times are based on a 70° F room temperature. Croissants: 8-12 hours, Danish/Cinnamon Swirls: 8-12 hours, Bread: 4-6 hours to thaw, then shape and recover for an additional 3-6 hours. NEVER BENCH PROOF ENTRÉE CROISSANTS.

3. **How do I achieve a crust on the bread without a steam-injected oven?**
Spray the bread with water until it is soaking wet just before placing it in the oven. Or, place a pan of hot water in the bottom of the oven and then throw ice into the water after the bread is loaded in the oven just before closing the door. Please keep in mind the finished results will not be the same as a steam-injected oven.

4. **How do I know when croissants are fully proofed?**
Proofing is complete when product doubles in size. It may be necessary to place a frozen croissant next to a proofed croissant to get a good visual. In addition, the croissant will bounce back when gently touched. Be careful of over-proofing. Many air bubbles on the surface of the croissant is an indication of over-proofing, which will cause the croissant to collapse during baking.

5. **Croissants always look small when I bake them.**
Check to make sure proofing times are accurate. If you are

Appendix C.



Support

Raised Donuts

- Raised Donut Basics
- Troubleshooting Raised Donuts

Raised Donut Basics

To produce yeast-raised donuts:

1) **Mixing** – Put water into bowl first, crumble yeast into water, then add mix. Mix dough until it is pliable and dry to the touch. Dough should pull clean away from the sides of the bowl when properly developed.

2) **Dough Temperature** – Ideal temperature is between 78° to 82° F (25.6° to 27.8° C). Dough temperature that is too hot will ferment too fast, have poor texture and grain and have a darker than normal color when fried.

3) **Fermentation** – Defined as: a period of time to allow a chemical change activating the living organism (yeast or bacteria), that is, allowing it time to feed and grow, thus producing a leavening gas. Dough should be fermented in the mixing, at room temperature, and away from drafts. Allow dough to come up to about two or three times its original bulk. This time should be from ¾ to 1½ hours.

4) **Rolling and Cutting** – Block the dough into several small pieces. Use as little dusting flour as possible. Roll dough gently so as to not tear the surface. Cut with an even, solid pressure. Sweep away excess flour.

5) **Proofing** – Proof box should be 95° to 100° F (35° to 37.8° C), with sufficient humidity to prevent crusting. When touched, a properly proofed donut will hold an indentation without collapsing. If the indentation returns to the surface, the donut is underproofed. If the donut collapses when touched, it is overproofed.

6) **Frying** – Proper temperature of the shortening is 375° F (190.5° C). Allow donuts to dry off at least five minutes before frying. Let the underside attain a golden brown color (55 to 60 seconds) then turn and finish the second side. Remember, when grease drains off the donut, it will be darker in color.

7) **Glazing** – Fresh glaze should be made daily using honey glaze as a stabilizer. Allow donuts to drain about one minute, then glaze immediately.

8) **Finishing and Cooling** – After frying, donuts should be allowed to cool away from drafts, and on screens, at room temperature. They should then be filled and iced as soon as possible and put into a closed showcase or packaged.

Troubleshooting Raised Donuts

• ***For bench type production, is there a good rule for dough temperature?*** For a 1 gallon (3.8 liter) dough, a temperature of 80° to 82° F (26.7° to 27.8° C); for a larger dough, 76° to 78° F (24.4° to 25.6° C) is suggested to allow for a longer make-up time.

• ***What will happen if my dough temperature is 85° to 90° F (29.4° to 32.2° C) ?*** The dough will ferment more rapidly, and there is a chance that the dough will "gas out," or age too quickly, before make-up is complete. This can cause low volume, high grease absorption, light crust color, and poor shelf life.

• ***What will happen if my dough is too cold?*** The rate of fermentation is greatly slowed down -- longer make-up time is necessary to avoid working a "young dough." In some cases, proofing times will have to be extended to avoid low volumes and blistering.

• ***What is the best way to mix a yeast-raised dough?*** Place all ingredients into the mixing bowl, add water, and mix in low speed with a dough hook until water in incorporated (one to two minutes). Mix in medium speed for two minutes to clean up (normally 10 to 15 minutes total). Dough should have a smooth, not tacky, feel.

• ***How should dough be fermented?*** The dough may be fermented in the mixing bowl, or a machine bowl, if a regular dough room or trough is not available. Be sure to protect dough from drafts. Use a constant room temperature of 80° to 85° F (26.7° to 29.4° C) with sufficient humidity to prevent the doughs from crusting.

• ***What are the characteristics of a properly fermented dough ?*** The dough should be fermented until is it between two and three times its original bulk. The exact time may be between 1 to 1½ hours, depending on the shop routine and shop conditions. Usually the dough will recede when slight pressure is applied to the top center area of the dough.

• ***What special precautions should be observed when rolling the dough?*** Avoid excessive dusting flour. Brush flour off before proofing. Raw flour on the surface of donuts affects the frying shortening adversely. Roll small donuts on a slightly dusted bench cloth. Do not rupture the donut surface.

• ***At what temperature should dough be proofed?*** Proof at 95° to 100° F (35° to 37.8° C). Humidity should be between 80 percent and 85 percent.

• ***What are the characteristics of a properly proofed dough?*** When lightly touched, a properly proofed dough retains an impression formed by the finger but does not collapse. A young or underproofed dough is tough, elastic and springy, and retains no impression when touched. An old or overproofed dough retains the impression of the finger and may even collapse.

• ***What happens if the donut is underproofed?*** The dough will not have the desired expansion. The cells will be small and the structure tighter than if properly proofed, and the keeping quality will be poor.

• ***What happens when a dough is over-proofed?*** The donuts may have coarse, open grain, poor shape, blistered or ruptured crusts, excessive frying shortening absorption, low volume, pale crust and poor keeping qualities.

• ***What is the correct frying temperature for yeast-raised donuts?*** Fry at about 375° to 380° F (190.6° to 193.3° C). Donuts brown too rapidly and may have raw or doughy centers if fried in fat that is too hot. Donuts fried in colder shortening brown too slowly and absorb excessive frying shortening.

• ***When should glaze be applied to yeast-raised donuts?*** Drain donuts for about one minute until excess shortening has run off. Then glaze evenly.

• ***What is the best way to prevent glazed donuts from "weeping?"*** Make sure that your dough does not have an excessive amount of water mixed with it. Do not under-fry -- this gives the donut a little darker, thicker crust. Make sure cooling time prior to glazing is correct -- if it's too hot your glaze will run off the donut. If it's too cold, your glaze will not adhere. Then glaze down with a simple syrup, <u>not water</u>. Check to see if icing conditioners or driers are being used correctly and in recommended quantities.

• ***What factors affect symmetry?*** A slack dough, excessive dusting flour, careless rolling and cutting, overproofing or fermentation and proofing temperatures that are too high contribute to poor symmetry or shape.

• ***What contributes to poor volume?*** Poor volume will result when the dough is not fermented or proofed enough or when dough is chilled by a draft during fermenting or proofing.

• ***What special care should be given to frying shortening?*** The shortening foams vigorously when frying yeast donuts because they yield a large amount of carbon dioxide gas and some alcohol. This dislodges small pieces of dough and particles of dusting flour which float off into the shortening and are carbonized or burned. These conditions make it doubly necessary to drain and strain the frying shortening daily to remove the burned particles. Avoid overheating the shortening. Use a temperature controlled kettle.

• ***Why do my yeast-raised products have a tendency to collapse occasionally?*** Your dough may have too much age -- don't mix more dough than you can handle within suggested time guidelines. Don't add too much scrap dough back in at once (20 percent is a good guide). Don't overproof or proof too wet as this will weaken the structure of your products.

• ***Why do my yeast-raised products vary in size and shape after they are cut?*** Be sure to fully shrink your dough piece after pinning it out. Unless the dough is completely relaxed, it will shrink and become misshapen as it is cut. When rolling out the dough, try to get the entire piece down to a uniform thickness (usually ¼" to ½", or 6.4 mm to 1.3 cm, thick). Be sure that your dough is developed enough, and dry enough, so that it is not easily misshapen when cut pieces are transferred to screens or cloths. Care must be taken to use just enough dusting flour to prevent the dough from sticking to the bench.

PART OF AGA Bake

Appendix D.

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Paul,

Ref. our telephone conversation the other day.

I've had various conversations with our "Bread" technical team and none of them are aware of anybody in the UK or Europe that is producing bread products using frozen proofed dough. There is however an enzyme based company in Holland that claims they have successfully carried out trials, using this type of process, but due to massive costs involved in taking it beyond a pilot plant operation to a full-scale plant it has been stopped. It just proved non-commercial, with very high investment required in special ovens.

Hope this is of some help

Regards

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